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By- Loreen, C.O.

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This compilation of research in agricultural education includes 36 studies completed during 1967-68 in the seven states of the American Vocational Association Pacific Region. Masters theses and staff studies are summarized by listing their purpose, methodology, and major findings. (DM)

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ABSTRACTS OF RESEARCH STUDIES IN AGRICULTURAL EDUCATION

COMPLETED IN 1967-68

IN THE PACIFIC REGION

Prepared by

C. O. Loreen, Professor
Agricultural Education
Washington State University

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INTRODUCTION

This compilation of research in agricultural education includes 36 studies completed during 1967-68 in 7 states in the Pacific Region.

All studies submitted by teacher educators are included in this report although some may not meet the criteria that were established for the selection of studies for the U.S. Office of Education publication, Summaries of Studies in Agricultural Education.

The compilation of abstracts of research in agricultural education is an activity of the Research Committee of the Agricultural Education Division of the American Vocational Association.

C. O. Loreen
Pacific Region Representative
Research Committee
Agricultural Education Division
AVA

November 1968

ARIZONA

submitted by

James B. Hamilton

CLARIDGE, JAMES DUANE. An Appraisal to Determine the Areas of Instruction Needed in Agricultural Mechanics by Graduates in Agricultural Education at the University of Arizona. Master's problem, M. Ag. Ed., 1967, University of Arizona. 25 p. Library, Department of Agricultural Education, University of Arizona, Tucson.

Purpose. -- To determine: (1) the areas of instruction needed in agricultural mechanics by vocational agriculture teachers; (2) if adequate, inadequate, or no instruction was received in these areas; and (3) the need for new areas of instruction.

Method. -- Graduates from 1962-66 in Agricultural Education at the University of Arizona were used to obtain the data. Each graduate who was teaching or had taught vocational agriculture received a questionnaire.

Findings. -- The instructional areas of oxy-acetylene, surveying, rope work, arc-welding, concrete work, wood working, drawing plans, and painting in agricultural mechanics received 50 per cent or more responses of the graduates indicating adequate instruction was received at the University of Arizona.

Inadequate instruction, as indicated by 50 per cent or more of the graduates, was received in the instructional areas of electricity, tool conditioning, cold metal work and use of power equipment.

Seventy-five per cent or more of the graduates indicated that they received no instruction in the areas of metal lathe work, small gas engines, micrometer reading and sheet metal work.

Fifty-five per cent or more of the graduates were of the opinion that all twenty-two areas should be included in an undergraduate program in agricultural mechanics. The area of metal lathe work is a questionable area of instruction.

New areas of instruction that were suggested in the instructional area of agricultural mechanics by the graduates were: adjustment of machinery; advanced welding; pipe work; buildings and structures; operation of new machinery; salesmanship and new machinery set up.

There were 55 per cent of the graduates that indicated more time should be given in the instructional areas of agricultural mechanics and 50 per cent suggested that the courses offered should be more practical.

The facilities used in teaching the areas of agricultural mechanics were deemed by 25 per cent to be inadequate.

ERICSSON, GARY EUGENE. An Evaluation of a Basic Horseshoeing Course by Students and Instructors. Masters Problem, Master of Ag. Educ., 1967, University of Arizona, 51 p. Library, Department of Agricultural Education, University of Arizona, Tucson, Arizona.

Purpose. -- The purpose of the study was to determine skills and knowledge which students and instructors felt should be included in a basic horseshoeing course.

Method. -- Names of instructors and former students were obtained from universities offering or having offered horseshoeing courses. Data were obtained from questionnaires sent to seven instructors and forty-seven students who resided in fourteen different states and overseas.

Findings. -- 1. A basic horseshoeing course appears to have a place in training beginning horseshoers, but wherever possible it should contain more than 36 to 40 hours.

2. The anatomy and physiology of a horse's feet and legs should be taught to give students a foundation upon which to build their shoeing skills.

3. Students should be taught to recognize normal and abnormal travel in horses, preferably through the use of demonstrations.

4. A basic course should include cold shoeing and give the students ample practice performing the various steps in this area.

5. When time permits, basic corrective shoeing should be given, preferably as demonstrations.

6. How to build a forge fire and the methods of hot-shoeing should be given as demonstrations, allowing as much time as possible for student practice.

7. All advanced techniques such as building horse shoes, advanced corrective shoeing, and shoeing horses for all types of use should definitely be postponed until an advanced course.

KANTOLA, GENE CALUDE. Factors and People Influencing Occupation Selection of High School Seniors in Arizona. Problem, M.Ag.Ed., 1967, University of Arizona. 49 p., Department of Agricultural Education, University of Arizona, Tucson.

Purpose. -- To determine what factors influenced high school seniors in their tentative selection of an occupation and to determine which persons were the most influential in helping the students select these occupations in order to gain insights which would provide for a sounder basis for counseling.

Method. -- From the review of literature and help of staff members, the researcher gleaned a list of 13 occupational factors, eight influential people, and six characteristics of high school seniors which constituted the closed-form questionnaire developed for this study.

The investigator selected the senior members of the 37 high schools in Arizona that have vocational agriculture departments as the source of data for this study. From the total of 37 high schools, 21 agreed to administer the questionnaire. A total of 1580 questionnaires were used in tabulating the data.

The senior members were requested to mark the questionnaire in the following manner:

1. answer as to age, sex, whether occupational choice was made, type of occupation, whether they planned to further their education, type of educational institution they were planning to attend;
2. rank the thirteen occupational factors according to their importance to each student;
3. rank the influential people according to their importance to each student;
4. supply any additional occupational factors and influential people as each student deemed necessary.

The researcher developed a code sheet for the purpose of data processing. The code was used to implement the process of recording data on I.B.M. cards so comparisons could be made between the various items on the questionnaire. The final analysis of data was secured from the Numerical Analysis Laboratory of the University of Arizona.

Findings. -- The high school senior students surveyed fell between the ages of 16 and 21. Ninety per cent of the students surveyed were in the age groups of 17 and 18. A total of 69.4 per cent of all the students surveyed have chosen an occupation as opposed to 30.6 per cent who have not chosen an occupation. A total of 83.3 per cent of the students surveyed plan to continue their education beyond the high school level. The most influencing occupational factors to high school senior students of Arizona, according to their importance were: salary; security, interesting work; working conditions; and advancement. Those factors that were ranked least were: independence; prestige; observing others; required learning easy; and future dreams. In over all rank, the students indicated that mother, father, teacher, and high school guidance counselor exerted the most influence upon them in their selection of an occupation.

MASSIE, JOHN WILLIAM. The Educational and Professional Needs of Processor Fieldmen in the Willamette Valley of Oregon. Study, M. Ag. Ed., 1968, University of Arizona. 59 p., Department of Agricultural Education, University of Arizona, Tucson.

Purpose. -- To determine the present level of education and other selected characteristics of processor fieldmen, the need for additional education as expressed by the fieldmen, the kinds and types of knowledge and skills these fieldmen felt they needed to more effectively do their jobs, the type of educational program fieldmen desire from the Extension Service in Oregon to better accomplish their jobs, and to determine the extent or degree of use of extension information by fieldmen.

Method. -- A questionnaire was utilized. It was completed by 41 processor fieldmen at two area meetings in Oregon.

Findings. -- (1) Processor fieldmen as a group are well educated with younger fieldmen possessing more education than older ones, (2) the average tenure in their jobs as processor fieldmen was quite long, (3) all fieldmen, but particularly those with college degrees, expressed dissatisfaction with opportunities for advancement and opportunities for obtaining further education offered them by their employees, (4) processor fieldmen feel a keen need for obtaining more education to assist them in their job, (5) fieldmen would be very willing to attend short courses, (6) it is important to involve fieldmen in determining the subject matter to be taught at these short courses, (7) there are not outstanding preferences expressed by fieldmen with respect to particular subject matter to be presented with only a few subjects receiving a slight degree of preference, (8) fieldmen felt the Extension Service of Oregon was doing a satisfactory job of writing and presenting certain extension publications and information.

MAC MILLEN, WARD. The Effect of Chlorine on Seedlings Grown in a Peat-Lite Mix, Problem, M. Ag. Ed., 1968, University of Arizona. 42 p. Department of Agricultural Education, University of Arizona, Tucson.

Purpose. -- The purpose of this study was to determine the effects of various levels of chlorine on seedlings grown in "peat-lite".

Method. -- A controlled greenhouse experiment was conducted with 20 paks each of marigold, tomato, pepper and petunia seedlings grown in peat-lite. Observations were made of leaf burn, growth rate, color and root damage. The 80 containers of plants were watered daily with 10 different levels of chlorinated water. Observations were made every third day on the amount of leaf burn, growth rate and color. Root development was checked at the end of the two week experiment.

Findings. --

1. No injury occurs to marigolds, peppers, tomatoes and petunias at chlorine levels of 11 ppm or below.

2. Chlorine levels of 55 ppm decrease the growth rate of marigolds, tomatoes, peppers, and petunias seedlings grown in "peat-lite".

3. A chlorine level of 110 ppm will slightly damage roots, seriously decrease plant growth, and produce a moderate leaf burn on marigolds, tomatoes, peppers, and petunias.

4. Severe root damage and leaf burn, and either a severe slowdown in growth or death will occur when chlorine is applied at a rate of 330 ppm.

5. Chlorinated water at 550 ppm kills all 4 kinds of plants tested.

TURNER, FRANCIS CHARLES. Guidelines for Coordinating a Total Resource Development Program. Masters Problem, Master of Agricultural Education, 1967, University of Arizona, 45 pages, Library, Department of Agricultural Education, University of Arizona, Tucson, Arizona.

Purpose. -- The purpose of the study was to formulate guidelines for coordinating a Cooperative Extension Service educational program in resource development.

Method. -- A closed questionnaire was mailed to the State Director of Cooperative Extension Resource Development in each of the fifty states. The data obtained from forty respondents were used to determine the guidelines.

Findings. -- 1. Resource development areas should be of manageable size and should be adequately staffed. 2. Each resource development area should have a resource development committee whose responsibility is to determine the focus of educational programs. 3. The membership of a resource development committee should represent a cross-section of all local occupational groups. 4. A comprehensive, written program of work should be implemented. 5. Resource development staffs should include personnel who are specialists in related fields. 6. Resource development educational programs should emphasize significant educational objectives germane to the resource development area.

VAN METER, CHARLES T. Placement opportunities in Agricultural and Related Businesses in the Peoria High School District. Problem, M. Ag. Ed., 1967, The University of Arizona. 34 p. Department of Agricultural Education, University of Arizona, Tucson.

Purpose. -- The purpose of this study was to determine the placement opportunities for high school age vocational agriculture students in productive agriculture and related businesses in the Peoria High School District.

Method. -- The study included 61 agricultural enterprises, and 29 related businesses in the Peoria High School District. The data were collected by means of questionnaires.

Findings. -- There were 296 full-time male employees, and 578 part-time male employees on the 51 farms surveyed in the Peoria High School District. Seventy-two percent of the farmers indicated a need for possible employment of 106 male high school age students on a part-time basis.

There were 99 full-time employees, and 94 part-time employees in the 29 agriculture related businesses surveyed in the Peoria High School District. Fifty-one percent of the businesses indicated a need for possible employment of 26 high school age students on a part-time basis.

The greatest need for employment of high school age students was during the summer months.

COLORADO

submitted by

Irving C. Cross

CLAVER, GENE R. Factors Influencing Enrollment in Vocational Agriculture 1967. Master's report, 1968. Colorado State University. 131 p. Department of Vocational Education, Colorado State University, Fort Collins.

Purpose. -- The primary purpose was to determine what factors were indicated by beginning high school male students for electing or not electing first year vocational agriculture.

Method. -- Seventy-five vocational agriculture and 75 non-vocational freshman male students were selected at random from 12 schools in District VIII of Nebraska and asked to respond to a prepared questionnaire.

Findings. -- Ninety-two per cent of those enrolling in vocational agriculture expected to like shop work, and 82 per cent expected to like FFA activities.

The vocational agriculture teacher and members of the immediate family had the most influence on students to enroll in vocational agriculture.

Parents of non-vocational agriculture students were reported as having more influence on students in choosing a course of study than were parents of vocational agriculture students.

Over 70 per cent of the fathers of vocational agriculture students were farmers as compared with 17.3 per cent of the fathers of non-vocational agriculture students.

A larger percentage of parents of vocational agriculture students had a desirable attitude toward the vocational agriculture program than did parents of non-vocational agriculture students.

The vocational agriculture teacher was reported as being the primary individual for acquainting both the vocational agriculture and the non-vocational agriculture students with the vocational agricultural program.

Sixty-four per cent of the non-vocational agriculture and 53.3 per cent of the vocational agriculture students planned to attend college.

Students having brothers who had previously taken vocational agriculture were more inclined to enroll.

As very few students were acquainted with the vocational agricultural program through the guidance counselor, it appeared that either the students did not have confidence in the counselors or the counselors were not familiar with the program.

FISCUS, GERALD E. Attitudes of Vocational Agriculture and Non-Agriculture Teachers Toward Team Teaching. Masters Report M. Ed., 1968, Colorado State University. 116 p. Library, Colorado State University, Fort Collins.

Purpose. -- The primary purpose was to determine the attitudes of Colorado high school vocational agriculture and non-agriculture teachers toward team teaching and to find the extent to which team teaching was being utilized.

Method. -- The data were gathered from 38 vocational agriculture and 22 non-agriculture teachers in Colorado who completed a prepared questionnaire.

Findings. -- Seventeen of the 60 reporting teachers had used the team teaching technique the first semester of the 1967-68 school year. 85 hours of use was reported by the vocational agriculture teachers and 65 hours by the non-agriculture teachers.

Subjects which the instructors felt they could most easily teach in a team situation included parliamentary procedure for the vocational agriculture teachers and speech arts for the non-agriculture teachers.

Scheduling difficultues was the major factor which inhibited the use of team teaching in both vocational agriculture and non-agriculture subject areas.

The reporting teachers seemed concerned about the attitudes and personalities of the other members of the team as factors which might inhibit the success of team teaching.

The vocational agriculture teachers seemed to be knowledgeable in several subject matter areas other than agriculture and therefore might be included in teaching teams outside the area of vocational agriculture.

It may be that some teachers were aware of the applicability of the method in teaching some topics, but the opportunity to incorporate team teaching into their instructional program had not arisen.

Learning by the student is enhanced by the use of a teacher specialized in a subject matter area, therefore, it is possible that teachers should examine the team teaching technique as an addition to their instructional program.

IHA, JAMES Y. Relationship Between Production Agricultural Mechanics Curriculum and Skills Needed by Workers in Agricultural Business Occupations. Master's Report, M. Ed., 1968, Colorado State University. 120 p. Library, Colorado State University, Fort Collins, Colorado.

Purpose. -- The purpose was to determine the relationship between a basic agricultural mechanics course of study designed for production agriculture and those skills needed by workers in off-farm agricultural occupations.

Method. -- Curriculum guides and textbooks were analyzed to develop a basic agricultural mechanics course of study in production agriculture. Twenty-five agri-business employers in the Loveland, Colorado community were personally interviewed and asked to rate the importance of the job skills in the basic agricultural mechanics curriculum.

Findings. -- The respondents indicated that they were involved in many different agricultural functions. The total number employed by all agri-business firms was 725 employees of which 249 were employed on a full-time basis. The largest number or workers was employed by those firms involved in the processing of agricultural products. All, or 155 of the skilled workers, were employed on a full-time basis.

Little relationship was found between the agricultural mechanics competencies and skills needed by farmers and those skills needed by all of the off-farm agri-business employees when taken collectively. There was a relationship between the agricultural mechanics competencies and skills needed by farmers and those skills needed by employees in the farm machinery sales and service businesses. Little relationship was found for those involved in the agricultural supply sales and service, processing of agricultural products, and horticulture product sales and service businesses.

As a result of the study, the following recommendations were made:

1. The business activity conducted by an agri-business firm should be identified and considered in determining the agricultural mechanics competencies and skills needed in preparing workers for off-farm agricultural occupations.

2. The agricultural function performed by an agri-business firm should be identified before determining the agricultural mechanics competencies and skills needed to perform these functions.

3. In developing an agricultural mechanics course of study for students anticipating careers both in production agriculture and off-farm agricultural occupations when taught in the same classes, the following enterprises should be considered for inclusion: shop regulations and safety, tool fitting, cold metal, shop arrangement, engine and tractor maintenance, welding, farm machinery, painting, soldering and sheet metal, and farm electrification and safety. Special consideration should be given before including the following enterprises: drawing and sketching, woodworking, concrete and masonry, and plumbing and water supply. Two enterprises, glazing and rope work, should be given serious consideration before inclusion in an agricultural mechanics course of study.

IVERSON, MAYNARD Opportunities in Non-Production Agricultural Occupations. Master's Report, M. Ed., 1967, Colorado State University, 138 p. Department of Vocational Education, Colorado State University, Fort Collins, Colorado.

Purpose. -- To determine what opportunities existed for student placement in non-production agricultural occupations in Minot, North Dakota.

Methods. -- The data were collected by means of a questionnaire administered by personal interview to managers of 41 firms giving direct service primarily to farmers.

Findings. -- Data revealed that the firms employed 685 workers in 58 job titles. Most firms had been in business less than 40 years. Over 56 per cent of the firms were engaged in retailing and servicing functions. Farm machinery/equipment, dairy products, crops spraying, and grain buying were major products and services.

Most employees were male and 60 per cent had farm experience. Firms in the service and construction functions had more part-time and seasonal workers than full-time. Employment was stable with 40 new employees expected between 1967 and 1970 and annual turnover of 103.6 persons. Most employees left voluntarily because of part-time/seasonal work. Most discharged were for incompetency. Most firms used the State Employment Service, persons dropping in and recommendations by known persons as sources of new employees. Most firms paid beginning workers in all job levels from $250 to $550 per month. Higher salaries were paid in the higher job levels. Retirement benefits were provided by all firms. Employers generally preferred and required high school graduation for beginning workers. Farm residence background was preferred for all job levels but clerical. Age 18 was generally the minimum for job entry.

Most new employees received informal on-the-job training. Twenty-three firms were collectively willing to hire approximately 30 students under a cooperative work experience training program. Several restrictions were listed.

KOON, SIDNEY E., JR. Placement Opportunities in Agriculture Occupations for Students in the Fort Collins Schools. Masters report, 1968. Colorado State University. 127 p. Department of Vocational Education, Colorado State University, Fort Collins.

Purpose. -- To identify the nonproduction agricultural placement opportunities and implications for students and training programs in agricultural occupations for the Fort Collins community.

Method. -- A personal interview using a questionnaire was administered to management personnel in 49 agri-businesses, located within the proximity of Fort Collins, Colorado.

Findings. -- The 49 agri-business firms reported sales and service as the major functions, while the major products or service of the firms were floriculture and horticulture.

The state employment service was the source most commonly used by the agri-businesses to secure new employees.

Agri-business firms employed 153 full-time administrative employees, with 45.8 percent in management positions. There were 756 full-time nonadministrators showing 560 to be skilled workers.

The 49 firms employed 482 part-time nonadministrators, the majority in unskilled positions, and only 30 part-time administrative employees.

An agricultural background was required or desirable for 100 percent of the administrative and a majority of the nonadministrative agri-business employees.

The agri-businesses expect a growth in full-time employees of 603 in two years and 993 in five years.

A majority of the firms indicated no educational background was required. Those specifying any education in general indicated a high school education was sufficient for nonadministrative job levels.

The Colorado minimum age law and Federal labor laws were limiting factors for employment in the agri-businesses.

Over 87 percent of the agri-business employers were willing to cooperate in an advisory committee capacity, while 57 cooperative placement opportunities for males and 12 for females were reported for nonproduction agricultural students.

Job opportunities exist for students with an agricultural background, primarily in the nonadministrative job categories.

Cooperative work experience programs should be provided for students or recommended by advisory committee personnel. Such restrictions as minimum age law and Federal labor laws should be studied and understood before designing programs or selecting students.

Training programs should be implemented and planned on a long time basis, emphasizing training for the major job categories of service, sales, floriculture and horticulture, manufacturing, processing, and fabrication.

LANCASTER, STANLEY L. Factors Affecting the Establishment of Programs of Vocational Agriculture in Colorado. Master's Report, 1968. Colorado State University. 95 p. Department of Vocational Education, Colorado State University, Fort Collins.

Purpose. -- The primary purpose was to attempt to identify those factors that were inhibiting the establishment of new programs of vocational agriculture in Colorado.

Method. -- One hundred nineteen administrators and school board secretaries in 95 Colorado school districts not offering vocational agriculture were surveyed in an attempt to determine factors that may be affecting program establishment. Data collected by means of a mailed questionnaire included special information describing the school districts plus administrator attitudes toward the program.

Findings. -- There were two non-reimbursed programs in Colorado. Approximately 25 schools have 25 or more farm boys enrolled that may be available for vocational agriculture if it were inaugurated.

Six per cent of the communities showed a high degree of interest in the program, and 76 per cent responded with low or no interest.

Eleven of the 69 districts responding were making plans to contract with other schools for agriculture instruction.

Twenty-five students were felt to be a full time work load for the agriculture program by 35 per cent of the administrators, while 45 per cent considered 25 students plus an adult or young farmer class to be ideal.

Twenty per cent of the administrators indicated their school districts did have financing and facilities available for the program.

Administrator-school board secretary attitude showed that: vocational agriculture is of value, but finances are needed for other programs; the program would be an asset to the community and would be inaugurated if need and financing were available; working with the F.F.A. and teaching young and adult farmers is an integral part of the teacher's job; a complete program should include in-school instruction in production agriculture and off-farm occupations plus adult and young farmer instruction; guidance and counseling services are necessary for student information of agriculture career opportunities; the school should provide an equipped classroom and shop; a land laboratory is a desirable part of the facility; the combination program of production and off-farm agriculture training was best suited for their schools, and the basic philosophy of the program was acceptable.

LIGHTSEY, HERBERT L. Organization of Multiple-Teacher Vocational Agriculture Departments. Professional Paper, M. E., 1967, Colorado State University.103 p. Department of Vocational Education, Colorado State University, Fort Collins, Colorado.

Purpose. -- The purpose of the study was to determine the operational and administrative structures being used in multiple-teacher departments of vocational agriculture in Colorado.

Method. -- The major source of data used were: a study of previous research studies and literature and by survey. A three part questionnaire containing 48 selected factors affecting the operation of multiple-teacher departments was developed. Questionnaires were sent to the 13 teachers employed in the six multiple-teacher departments during the school year 1966-67. A 100 per cent usable return was achieved.

Findings. -- There must be in evidence a clearcut need for the second teacher. Full cooperation of school administrators is needed. Adequate planning prior to hiring the second teacher, early joint planning by the two teachers, and cooperation were found to be essential.

Individual teacher personalities, philosophies and talents need to be considered. Provisions should be made for effective communications between staff members. A head of the department should be designated to provide leadership, guidance, and direction for the program together with written policy and responsibility statements. Additional equipment and two classrooms were found essential.

The major advantages as obtained through the survey were; improved courses of study; expanded FFA programs of work; expanded occupational experience programs and more efficient utilization of teacher time.

The major disadvantages found were: the lack of facilities and equipment; insufficient planning relative to operational and administrative procedures; lack of organization and record keeping responsibility.

NELSON, GEORGE R. Effectiveness of the Lecture Method Compared with other Methods in Teaching Vocational Agriculture. Master's report, 1967. Colorado State University. 143 p. Department of Vocational Education, Colorado State University, Fort Collins.

Purpose. -- Twofold; first to determine the effectiveness of various teaching methods as viewed by authorities, and secondly to test the effectiveness of the lecture method of teaching versus the lecture method plus laboratory-demonstration method.

Method. -- A survey of previous literature and research on the methods of teaching was made in order to determine what authorities indicated were the basic teaching methods. It compared the effectiveness of the lecture method used with a control group, and compared this group with a similar group where lecture plus laboratory-demonstration method was employed.

Findings. -- For the last 50 years various methods of teaching have been researched and advocated. Most experts feel that each method must be chosen in view of the desired outcome and many methods must be used for optimum results.

Researching twenty-one methods of teaching showed that no one method is best. The use of more than one method for best success was recommended.

Some teachers may use some types of methods and these same methods will not work for another teacher.

When the difference scores between the pre- and post-test were calculated, a net gain score, using the "t" test, a "t" value of 1.15 resulted. This value was not significant at the 5 percent level of confidence. Therefore it was concluded that the acquisition of knowledge on the part of group II using the lecture plus the laboratory-demonstration method was not significantly higher than that of Group I where only the lecture method was employed.

PIPER, JAMES E. Factors Influencing Young Men From Not Becoming Established in Production Agriculture. Master's Report, M. Ed., 1968, Colorado State University. 103 p. Library, Colorado State University, Fort Collins, Colorado.

Purpose. -- The primary purpose was to identify the factors inhibiting young men with vocational agriculture training and farming experience from becoming established in farming.

Method. -- Data were secured by questionnaires from 127 male graduates of vocational agriculture in Colorado high schools who completed at least two years of vocational agriculture and who did not become established in production agriculture during the period 1962-67.

Findings. -- The data indicated that 84.3 percent were farm reared; 64 percent of the fathers were full-time farmers; the average acreage per farm was 158.8 acres of irrigated land and 727.3 acres of dryland.

Of the former graduates, 79.5 percent had pursued some post high school education. Fifty former graduates indicated they had attended a four year college or university and 40 reported they had attended a junior or community college.

The 127 former graduates had held 2.6 jobs since graduation from high school and had held each job for an average of 22.3 months. At the time of the survey, they were employed in 38 different occupations. Those most frequently engaged in were: armed services, students, and teaching. Ten or 7.9 percent of the 127 respondents stated positively they planned to return to farming.

The 127 former vocational agriculture graduates indicated the most frequently stated factors for not entering farming in order of their importance were: desired further education after high school; preferred an occupation other than farming or off-farm related occupation; prospect of uncertain income from farming; unable to secure necessary capital; home farm operation too small for a partnership; military service interfered; family financial obligations prevented entry into farming; parents encouraged them to go to college; no land available for entry into farming; preferred an off-farm agricultural related occupation and lacked interest in production agriculture.

ROEHL, REUBEN L. Opportunities for Establishment in Farming. Master's report, 1968. Colorado State University. 74 p. Department of Vocational Education, Colorado State University, Fort Collins.

Purpose. -- This study was undertaken to determine what opportunities exist for entry into farming and the amount of capital required.

Method. -- Sixty farm operators in the Wausau, Wisconsin High School District who derived 50 per cent or more of their gross income from farming were asked to respond to a questionnaire.

Findings. -- The average age of farm operators was 48.2 years.

Fifteen and two tenths per cent of the full time farm operators and 7.1 per cent of the part time farm operators were engaged in partnership, father-son arrangements, or were owner-renters.

Forty of the 60 farmers planned to continue farming during the 1967-71 period. Ten planned to sell their farms, four planned a partnership, one cash rent, and one was undecided.

Sixty eight and seven tenths per cent of the farm operators who planned a change indicated that members of the family would take over the farm. Twenty five per cent reported that family members would not take over the farm and 6.3 per cent were undecided.

The major reason for entry opportunity into farming was retirement of the farm operators.

The type of business arrangement contemplated by 75 per cent of those planning a change was to sell on contract. Twenty five per cent said they would sell for cash.

The value of all property items averaged $56,318.

THOMAS, LARRY G. Factors Influencing the Inauguration of Non-Farm Agricultural Occupations Programs in Colorado High Schools. Master's Report M. Ed., 1968, Colorado State University. 148 p. Library, Colorado State University, Fort Collins, Colorado.

Purpose. -- The primary purpose was to identify those factors that were influencing the establishment and inauguration of non-farm agricultural occupations programs in Colorado high schools.

Method. -- Questionnaires were mailed to 58 school administrators and 58 vocational agriculture teachers in the state having reimbursed programs of vocational agriculture that had not established a non-farm agricultural occupations program. One hundred six usable questionnaires were returned.

Findings. -- The school administrators and the vocational agriculture teachers indicated that (1) there was very little involvement of persons and agencies in appraising the possibilities of inaugurating a non-farm agricultural occupations program, (2) facilities were available to conduct classes in the mechanical and shop areas, (3) training in non-farm agricultural occupations was needed and was the responsibility of the secondary school system, (4) class scheduling would be a major problem for students interested in the non-farm agricultural occupations program, (5) training stations for conducting cooperative work experience programs would be essential, and that securing training stations would be a problem, (6) their school districts would be willing to spend funds for instructional materials and supplies, (7) the State Supervisory Staff had not given help and stimulation towards establishing non-farm agricultural occupations programs.

Sixty-eight per cent of the vocational agriculture teachers indicated they were teaching non-vocational subjects and 31 per cent were engaged in non-teaching duties.

Twenty-six and one half per cent of the schools surveyed had land laboratories available and 10.4 per cent more indicated they planned such a facility in the future.

A majority of the school administrators indicated that their vocational agriculture teacher had not communicated with them concerning the non-farm agricultural occupations program.

There was a significant difference of opinion between the two groups relative to the availability of time of the vocational agriculture teacher to conduct a non-farm agricultural occupations class.

Both groups indicated that they did not feel other vocational education programs would cause any major concern in establishing a non-farm agricultural occupations program.

School administrators indicated an awareness of present labor laws and their effect on the non-farm agricultural occupations program but were not as fully aware of this factor as were the vocational agriculture teachers.

WHITMORE, LOREN L. Financing Colorado F.F.A. Chapter Activities in Relationship to the Stated Purposes of the F.F.A. Master's Report, M. Ed., 1967, Colorado State University. 9 p. Library, Colorado State University, Fort Collins, Colorado.

Purpose. -- To determine the fund-raising activities of Colorado FFA Chapters in relation to the stated purposes of the FFA.

Method. -- The data for the study were gathered from 62 FFA advisers by means of a questionnaire by mail.

Findings. -- The average receipts per FFA chapter were $1,382.27 with average expenses of $1,249.11. Fifty-seven of the 62 chapters assessed average dues of $2.91 with a range of $1.00 to $6.00 per member.

A high majority of the chapters deposited funds in a school activity account.

Twenty-three or 37 per cent of the chapters used an average of 12.8 hours of school time to raise funds.

Administrative limitations were placed on 19 or 31 per cent of the chapters as to the number of fund-raising activities. Twenty-four or 39 per cent of the chapters could not participate in certain types of fund-raising activities.

Fourteen or 23 per cent of the chapters averaged a net income of $431.30 from school farms; fifteen or 24 per cent of the chapters averaged $220.61 from the use of chapter owned equipment.

A wide variation was found between the fund-raising activities and the purposes of the FFA to which they were indicated by the advisers. However, production enterprises, cooperatives and concessions were consistently indicated by most advisers as being related to a specific FFA purpose.

WRIGHT, EARL B., Opportunities in Non-production Agricultural Occupations and the Opportunities for Student Placement. Master's Report, 1968. Colorado State University. 97 p. Department of Vocational Education, Colorado State University, Fort Collins.

Purpose. -- To determine the occupational opportunities in non-production agricultural occupations, and the opportunities for student placement in agricultural occupations, and the opportunities ~~for~~ student placement in agricultural related businesses, through a cooperative work experience program for high school students.

Method. -- Personal interview was used to collect the data from 30 non-production agricultural businesses in the city limits of Clay Center, Kansas by means of a questionnaire.

Findings. -- The majority of the 30 firms surveyed for this study listed their major functions as retailing and servicing.

Of the 22 personal characteristics listed on the questionnaire, employers rated highest the characteristics, in order of preference of "honest in work and deed," "works regularly and on eime," and "reliability."

Full time male employees represented two-thirds of the 489 jobs while seasonal workers accounted for 15 per cent. The skilled and semi-skilled job levels accounted for 75 per cent of all workers.

Firms engaged in manufacturing and retailing represented the majority of workers, 326 or 66 per cent were in manufacturing and 66 or 14 per cent were in retailing. In manufacturing, the skilled and semi-skilled job levels represented 44 and 42 per cent, respectively. Sixty-seven per cent of the employees in the retailing firms were rather evenly distributed in the sales, skilled and semi-skilled job levels.

A farm residential background would be an asset for the trainee in the retailing businesses, since employers preferred a farm background in the sales, skilled and semi-skilled job levels. The skilled, and semi-skilled and sales jobs would represent 95 per cent of the total increase in employment for 1968 and 1969.

A high school education was both preferred and required by most of the firms and the professional, proprietor, and manager job levels represented the only job levels requiring some college or a college degree.

Employers indicated that informal on-the-job training was the most popular type of training they provided. The skilled and semi-skilled job levels used this type of training most while proprietors and managers used specialized courses. Little use was made of evening classes and there was no response for part-time day classes.

"Wanting better working hours," and "more money" was given as the reason for 48 per cent of the 58 employees leaving their jobs voluntarily, nearly 80 per cent were from the manufacturing firms.

During 1965 and 1966, 27 workers were discharged by employers. "Irresponsibility" was the reason given by employers for discharging 37 per cent of the total. "Lack of work by the firms" and "drinking" accounted for 22 per cent, respectively, of those workers being discharged.

IDAHO

submitted by

Dwight L. Kindschy

ALLRED, REID TEW. A Study of the Value of Selected Audio-Visual Equipment as Used by the Instructors of Vocational Agriculture in Idaho. Thesis, M.S., 1968, University of Idaho, 77 p. Library, University of Idaho.

Purpose. -- The purpose of this study was to ascertain the extent to which teaching aids were made available to instructors in vocational agriculture in the state of Idaho, how frequently these aids were used as a means of improving instruction, problems encountered in securing and using teaching aids, and the solutions to the problems encountered by instructors in using audio-visual aids.

Method. -- Information for this study was obtained by means of a questionnaire submitted to all departments of vocational agriculture in the secondary schools in Idaho.

Findings. -- Response was received from sixty-one departments and sixty-three instructors, representing approximately 91 per cent of all instructors in Idaho. The data revealed that all sixty-three instructors had access to the motion picture projector, 97 per cent had available the film-strip projector, and 89 per cent had access to the slide projector. The opaque projector was available to only 43 per cent of the departments. Although relatively new to most departments, the overhead projector was found in 63 per cent and was used frequently. Other teaching aids were available to fewer of the instructors in Idaho.

The most serious problems encountered in securing teaching aids were the difficulty in obtaining equipment when needed and the lack of necessary funds to purchase equipment and materials.

The most serious problems encountered in using teaching aids were that aids or films must be ordered too far in advance of showing, films were not available to fit the course of study, and a lack of instructor's time to preview films, slides and other aids.

The following was concluded: (1) Projectors and teaching aids were rather limited. (2) Aids were not being utilized as frequently or as extensively as they might be. (3) A course in audio-visual education would be an aid to instructors in obtaining and using audio-visual equipment. (4) There was a need for provision in vocational education budgets for definite amounts to be expended for audio-visual materials and aids. (5) The more accessible teaching aids and materials were available to instructors, the more frequently they were used.

CARLSON, RONALD GEORGE. A Study of Occupational Opportunities and Educational Requirements in Ornamental Horticulture in Spokane County, Washington, Thesis, M.S., 1968, University of Idaho, 73 p. Library, University of Idaho, Moscow.

Purpose. -- To determine the job opportunities available in the nursery and the greenhouse industry and what competencies were needed to fill these positions by vocational agriculture students interested in ornamentals.

Several of the agriculture students at Riverside High School have moved onto small three and four acre farms which limits the potential size of production projects. Because most of these places needed landscaping and ornamentals planted around them, the writer felt there was a definite connection with occupational agriculture, which could be taught in the classroom.

Method. -- A questionnaire was devised and the writer interviewed a representative cross-section of the nurseries and greenhouses in the Spokane area. From the answers given a summary was compiled concerning the jobs available, salaries, and knowledge needed to fill the jobs in the nursery and greenhouse industry.

Findings. -- The nurseries and greenhouses offer the students many jobs during the year. Most of these jobs are part time or seasonal and vary in the amount of skill required. The nursery jobs were available in the spring, summer, and early fall. The greenhouses wanted part time workers during the various holidays and early spring. The salaries varied from one firm to another but on the whole were low when compared to jobs in other fields of employment. The vocational agriculture student would need specialized training in the subjects of ornamental horticulture to qualify as a skilled worker. The requirement of a knowledge of soils, fertilizer, and business varied with the firm and the job the worker was expected to perform. Beginning ornamental horticulture was a subject that could be taught in the different vocational agriculture departments in the Spokane area.

FAULKS, FREDERICK GLENN. A Study of the Factors Influencing Recruitment of Students in the Agricultural Education Curriculum in Idaho. Thesis, M.S., 1967, University of Idaho, Moscow.

Purpose. -- The purpose of this study was to determine possible ways which would prove beneficial to those who are involved in the selection and recruitment of students for the agricultural education curriculum.

Method. -- A questionnaire was developed and sent to Idaho vocational agriculture instructors and students majoring in agricultural education at the University of Idaho. The results of this study were based on the opinions and situations of the respondents.

Findings. -- About 45 per cent of the students majoring in agricultural education chose that curriculum while in high school, while another 36 per cent decided on the curriculum before completion of the freshman college year. Teaching was the career objective of over 50 per cent of the respondents. The vocational agriculture instructor was considered the most influential person concerned with recruitment of agricultural education majors. Also, an appreciation for vocational agriculture and the FFA influenced many of the respondents to select an agricultural education major and later a teaching career.

As a result of this study it is recommended that Idaho members of the vocational agriculture teaching profession should organize a well planned recruitment program. It was also determined that the instructor in each department should be continually reminded of the role he holds in recruitment.

JANSEN, JOHN DAVID. A study of the Methods Used in Financing Agriculture Experience Programs of High School Vocational Agriculture Students in Idaho for the Project Year January 1 to December 31, 1967. Thesis, M.S., 1968, University of Idaho, 74 p. Library, University of Idaho, Moscow.

Purpose. -- To determine the methods of financing used by vocational agriculture students of Idaho in carrying out and developing their supervised agricultural experience programs. Some of the objectives of the study were to determine the extent that credit was used, and the influence that credit had on developing student farming programs.

Method. -- Questionnaires were mailed to the seventy-one vocational agriculture teachers in the sixty-seven vocational agriculture departments in the state of Idaho. These questionnaires required information on students enrolled in vocational agriculture II, III, and IV classes, as these students would have established projects for the year studied. Seventy-eight percent of the teachers completed and returned the questionnaire to the writer. These were tabulated and analyzed to form the basis of facts for the study.

Findings. -- It was found that most students in the classes studied financed their supervised farming programs themselves. However, approximately 17 percent of the students obtained financial assistance from parents, banks, and other lending agencies. The students who secured financial assistance had slightly more projects per student than those students who did not secure financial assistance. This assistance was obtained on eighteen different kinds of enterprises. It was also found that almost all the vocational agriculture teachers spent some classroom time in the instruction of financial credit and its sources. All teachers felt this instruction was important.

KNOPP, RUSSELL GENE. A Study to Determine the Importance of Forestry in Oregon Vocational Agriculture Departments. Thesis, M.S., 1968, University of Idaho, 91 p Library, University of Idaho, Moscow.

Purpose. -- The purpose was to determine the importance of forestry education in the vocational agriculture programs of Oregon. This importance was based on the factors used to determine the inclusion of forestry and the opinions of Oregon vocational agriculture instructors as to the importance of the various subject matter areas.

Method. -- A survey was made of the Oregon vocational agriculture instructors through the use of a mailed questionnaire. The figures and opinions submitted by the vocational agriculture instructors were tabulated and presented along with a summary and recommendations.

Findings. -- The summarized data indicated that 59 per cent of the responding schools were currently including forestry education in their curriculums with the forestry instructor having an average of three years less teaching experience than those instructors who were not including forestry education in their agriculture curriculum.

The Oregon high schools that included forestry were located in areas near the forest industry with an average community income derived from forestry of 50 per cent. Those schools including forestry did so most frequently because the instructor felt the subject area was important; while the principal reasons for not including forestry were competition for time and a lack of background and/or experience, in that order.

The responses indicated a personal interest in forestry and work experience as the most common backgrounds of forestry instructors in the field of forestry with 84 and 76 per cent, respectively. The college courses taken by vocational agriculture instructors including forestry in their curriculum included the following: basic forestry, conservation, horticulture, and natural resources.

The average forestry program offered wide coverage in forestry with an average of from two hours to ten hours of instructional time.

It was recommended that forestry be included in the vocational agriculture programs of the Northwest with varying amounts of instructional time depending on the relative importance of forestry to the local economy. The minimum amount of instruction should include the scope of the forest industry and job opportunities in forestry.

VAN HOUTEN, RICHARD JAMES. An Evaluative Study of Public Relations Activities in Regard to Vocational Agriculture in Idaho. Thesis, M.S., 1967, University of Idaho, 63 p Library, University of Idaho, Moscow.

Purpose. -- The purpose of this study was to make the Idaho vocational agriculture teachers more aware of public relations and its importance in a total vocational agriculture program. This study was also intended to encourage the use of a planned vocational agriculture public relations program, which would meet the needs of the vocational agricultural department.

Method. -- A review of literature was made related to vocational agriculture public relations. A questionnaire was devised and sent to seventy Idaho vocational agriculture teachers for their evaluation. The data obtained from the sixty-one returned questionnaires were then summarized and analyzed.

Findings. -- A great deal of the information determined in this study, is contained in the conclusions. Some of the major conclusions were as follows: (1) A greater percentage of Idaho vocational agriculture teachers should place a high degree of emphasis on public relations. (2) A vocational agriculture public relations program should be designed to obtain the community's support and confidence. (3) The experience trend, indicating that forty-two out of fifty-six of the activities received progressively less value as the respondents indicated progressively less experience in the activity, was of sufficient significance to assume that the more experience a vocational agriculture teacher has with a public relations activity, the higher he will value this activity as a part of his public relations program. (4) Regardless of the value placed on an activity, by the respondents in this study, the final determinant of its value to the instructor will depend upon the ability of the vocational agriculture teacher to adapt the activity to the needs of his department in his community.

WALLACE, HARVEY RAY: The Status of Vocational Agriculture Advisory Councils in Idaho. Thesis, M.S., 1967, University of Idaho, 56 p Library, University of Idaho, Moscow.

Purpose. -- To make an evaluation of the use of advisory councils for vocational agriculture in Idaho. In addition a study was made to find the areas of assistance given by advisory councils and the reasons why all Idaho vocational agriculture teachers do not use advisory councils.

Method. -- Statistical data were obtained from forty-eight Idaho vocational agriculture teachers by the use of a mail questionnaire. This questionnaire provided all the information necessary for the purpose of this study.

Findings. -- It was found that too few Idaho vocational agriculture teachers were using advisory councils. From the results obtained by questionnaires from those teachers who had established advisory councils, very few disadvantages were listed which were derived from advisory council use. All these teachers using councils expressed great satisfaction from advisory council use.

Data received from those teachers in Idaho who did not have established advisory councils included very few valid reasons for not using advisory councils.

NEW MEXICO

submitted by

Leon A. Wagley

COBB, RICHARD ARTHUR. An Investigation of Employment Opportunities for Graduates of the Agricultural Institute at New Mexico State University. Thesis, M.S., 1967, New Mexico State University, Department of Agricultural and Extension Education, College of Agriculture. 82 p. New Mexico State University, Las Cruces, New Mexico.

Purpose. -- The purpose of the study was to analyze employment opportunities for graduates of the two-year, post high school Agricultural Institute program at New Mexico State University.

Method. -- Investigation of data secured by mailed questionnaires from 79 horticultural businesses and 98 machinery dealers in New Mexico and West Texas.

Findings. -- Horticulture - The greatest need for horticultural employees exists in retail nursery activities and golf course maintenance and operation. Fewer jobs are available through state or city park systems or through wholesale nursery industries. Starting salaries paid to horticultural workers ranged from $40 to $150 per week and for all occupations averaged $86 per week. Currently, there are 112 persons working in nineteen horticultural occupations, 95 more workers will be needed in the industry within the next five years.

Employers would hire a graduate of a two-year program at a higher salary than they would hire a high school graduate in 93 per cent of the positions available.

Agricultural mechanics - The most critical need for machinery employees is in the area of tractor, diesel and machine mechanics, machinery parts clerks, and farm machinery equipment salesmen positions. Starting salaries for farm machinery occupations averaged $100 per week for all positions. At the present time, 536 employees are working in thirteen machinery occupations and 448 additional personnel will be needed in five years. Employers would hire a graduate of a two-year program at a higher salary than they would hire a high school graduate for 90 per cent of the positions available.

OREGON

submitted by

Phillip B. Davis

COATS, WILLIAM RONALD. The Internal Organization and Administration of Multi-Teacher Departments of Agricultural Education. Thesis, M. Ed., 1968, Oregon State University. 71 p. Library, Oregon State University, Corvallis.

Purpose. -- (1) To determine how policies and operating procedures are established in Oregon's multiple-teacher departments; (2) to survey the facilities in them; (3) to present facilities recommendations for a specific Oregon high school; and (4) to establish a written, departmental operational plan that would offer guidance to other developing departments.

Method. -- A survey instrument was sent to 80 individuals teaching in Oregon's multiple-teacher departments from 1961-1967 inclusive to ascertain their departmental organization, policy formulating procedures and facilities.

The four-man agricultural staff of Molalla high school jointly developed the facilities recommendations and the operational plan after considering anticipated program offerings, reviewing related literature and securing information for specialists in the field.

Findings. -- Survey results from the 66 respondents in Oregon revealed that:

1. Most departments have unwritten operational plans.
2. Most departmental planning occurs in the fall.
3. Most departments encourage specialization by the permanent staff.
4. Most of the respondents supervise the farming program of the boys they teach.
5. The scope and sequence of each course is usually prepared by the instructor teaching it.
6. Most departmental chairmen assume major responsibility for the FFA advisorship, state farmer preparations, departmental reporting, new program proposals and the supervision of intern and student teachers.
7. Instructors and intern teachers report few major responsibilities in departmental operations.
8. Approximately half of the departments have two classrooms and a green house, and over three-fourths have shop facilities and office space.

The operational plan enumerates teaching assignments, general operating procedures and specific departmental and FFA responsibilities.

The specific facilities recommendations include two classrooms, 3 offices, a resource center, a conference room, restrooms, farm mechanics facilities, a forestry laboratory, a small animal laboratory and ornamental horticulture facilities including greenhouses, a head house, a shade house, a nursery plot and a landscaped area.

DAVIS, ERNEST L. Present and Emerging Agricultural Occupations in Yamhill County, Thesis M.S., 1968. Oregon State University. 75 p. Department of Vocational Education, Oregon State University, Corvallis.

Purpose. -- The purposes of this study were to identify non-farm Agricultural occupations in Yamhill County, identify job titles, estimate present number of employees, determine needed competencies, and list criteria for advancement.

Method. -- All business in Yamhill County, that, in the opinion of the author, might service, process, or distribute goods or capital of the farmer, or might require competencies in plant science, animal science, soil science, and agricultural science were interviewed by mailed preliminary questionnaires. Comprehensive follow-up interviews were conducted with a random sample of firms returning the preliminary questionnaire.

Findings. -- Of the firms responding to the questionnaire, 61.88 percent indicated that a knowledge of agriculture was beneficial to the performance of jobs within the firm. 43.71 percent of the firms interviewed in the comprehensive follow-up were agriculturally oriented.

The levels of employment showed the technical group was the largest and accounted for 23.61 percent of the employees needing agriculture orientations.

Most employers felt there would be an increase in activity of goods and services for the farmer and that employment opportunities in this area would increase.

Fifteen firms had some type of training opportunities for proprietors and managers, but had very few opportunities for the remaining levels of employment. Most firms interviewed, indicated a need for more training and would be willing to work with vocational agriculture departments to meet this need.

The study revealed that a high school education was adequate to meet the needs of 60.6 percent of the jobs, and that vocational agriculture training was desirable for 41.9 percent of the job titles surveyed.

The study showed that a general agriculture knowledge was required by 95.8 percent of all job titles.

DAVIS, GARTH E. The Identification of Off-Farm Agricultural Occupations in Umatilla County, Oregon. Thesis, 1968. Oregon State University, Corvallis, Oregon.

Purpose. -- The primary purpose was to determine off-farm agricultural occupations in Umatilla County. The information gathered concerning the firms interviewed in the study was sought to help formulate guidelines for planning programs for vocational agriculture.

Method. -- A preliminary questionnaire was sent to all firms that would require workers with a knowledge of agriculture. A random sample of those firms indicating favorably was taken. From this group 21 firms were selected for comprehensive interviews.

Findings. -- The 21 firms interviewed employed 482 workers, of which 220 or 45.66 per cent were agriculturally oriented. Future employment opportunities for the next five years was projected by the employers at 46 new employees.

Most firms used a variety of methods to secure new agriculturally oriented employees.

Farm experience and work experience was desirable in most employment opportunities.

Vocational agriculture training was desirable for 83.63 per cent of the occupations reviewed.

Broad competencies in agriculture were necessary for most occupations, while specific competencies were regarded as important only in specific job titles.

FRASER, WILLIAM STEWART. A Study of Off-farm Agricultural Work Experience Programs in Oregon High Schools. Thesis M. Ed., 1968, Oregon State University. 69 p. Library, Oregon State University, Corvallis.

Purpose. -- The fundamental purpose of this study was to identify the areas of instruction, placement and agreements that have been the most successful in high school agricultural education programs in Oregon.

Method. -- After reviewing available related literature, a questionnaire was prepared and sent to all Oregon high school vocational agriculture departments employing an instructor with tenure of one year or more. Of the 87 departments receiving the questionnaire, 70 responded. Thirty percent of the respondents were followed up with a personal interview.

Findings. -- Thirty-nine of the 70 respondents had off-farm work experience programs with 245 students employed, or 6.28 students per department.

A minimum grade average was required of students participating in work experience programs by 14 of the 39 respondents. Student interest was found to rank first in criteria for placement of student in a training station.

The most desirable work stations were those where the employer had an interest in the work experience program, with a willingness to participate and provide the safest and best possible training environment for the student.

Basic pre-employment instruction in work habits, proper communication, grooming, application letters, interviewing, and laws and regulations effecting workers was an essential prerequisite of 39 departments.

A written training plan or agreement which lists the learning activities the student should engage in at the training station should be developed by the teacher to serve as a guide to the employer in offering on-the-job instruction and to the teacher in teaching related instructions.

Teachers should prepare a course of study which includes adequate classroom time, shop and field supervision; the program should be evaluated periodically in terms of training, with a follow-up after placement.

Departments should select and use an advisory committee in planning or conducting a work experience program and activities should be coordinated with the employer, instructor, advisory committee, and administration.

STREIGHT, GENE T. A Study of the Needs for an Agricultural Education Program in the Salem Junior High Schools. Thesis M. Ed., 1968 Oregon State University. 93 p. Library, Oregon State University, Corvallis, Oregon.

Purpose. -- The primary purpose of this study was to gather data concerning the agricultural interests of students in the six junior high schools of the Salem school district and to determine the feasibility of developing an agricultural program for these schools.

Method. -- Data was secured from an agricultural interest questionnaire given to 581 junior high male students on a random sample basis. Additional data was secured through a ten member adult advisory committee and the U.S. Census Bureau, 1959 and 1964 census, and employment information from Marion County.

Findings. -- Over two thirds of the students were interested in an agricultural career. Highest interest was shown in recreation or conservation occupations among rural boys. Second choice was livestock production.

Almost one half of the students surveyed desired an opportunity for work experience programs, this included the supervised farming program.

One third of the students desired an agricultural program to be offered at the ninth grade level. In projecting student numbers the smallest agricultural class among the six schools might be 52 and the largest could be 110.

Advisory Council members recommendations to the school board varified the validity of the student interests by recommending the securing of additional staff members to expand and develop the agriculture program.

Employment data substantiates the need for trained personnel for employment in agricultural occupations.

WASHINGTON

submitted by

C. O. Loreen

LONG, GILBERT A. Clusters of Tasks Performed by Washington State Farm Operators Engaged in Seven Types of Agricultural Production. Staff Study, (USOE Project No. 0E7-0031) 1968, Washington State University, 88 p. Library, Washington State University, Pullman.

Purpose. -- To obtain up-to-date facts about clusters of tasks performed by Washington state farm operators engaged primarily in the production of (1) grain, (2) livestock, (3) dairy commodities, (4) poultry, (5) forest products, (6) horticulture commodities, and (7) general farming.

Method. -- A random sample of 267 was drawn. A questionnaire was designed to ascertain the farmer's performance of tasks classified as (1) animal care, (2) plant production, (3) land management, (4) harvesting and processing, (5) general management, (6) marketing, (7) equipment, use and care, and (8) building maintenance and construction. The questionnaire was distributed by mail.

Findings. -- A total of 178 usable questionnaires were returned by the respondents. This represented a 67 per cent return. Results show that tasks classified as management, marketing, animal care, and plant production are performed by large percentages of all catagories of farm operators.

The traditional vocational agriculture production curriculum has always contained the three basic elements of: animal industry, plant industry, and agricultural mechanization and farm management. In recent years the farm management program has received increased emphasis. The results of this study help clarify the need for such developments. This study also suggests some need for further expansion and upgrading of traditional programs within each of the traditional areas of their curriculum, so as to keep pace with modern day farming practices. The study indicates the need to keep our high school programs rather broad in order to encompass the breadth and complexity of agricultural production and agri-business.

SHAH, JAFAR ALI. Agricultural Skills and Abilities Needed by Teachers of Agriculture in West Pakistan. Thesis, M.S. Ag. Ed. 1967, Washington State University. 38 p. Library, Washington State University, Pullman.

Purpose. -- The purpose of the study was to identify the agricultural skills and abilities needed by teachers of agriculture in West Pakistan.

Method. -- A questionnaire listing those skills which the investigator deemed important or of possible importance was prepared.

Findings. -- All the skills listed in the questionnaire were considered important by the respondents with the exception of three skills, i.e., dehorning, horseback riding, and ear notching and branding.

In the area of general crops it was found that skills in selection of seed, controlling of pests, and applying manures were considered more important than plowing, storing manures, identifying major weeds, crop harvesting, planking, and grading of crops.

Selection of varieties, preparing seed bed, sowing of seed, and spraying against insects and pests were considered important skills in the area of fruits and vegetables. Spraying of trees, harvesting crops, and picking of fruit were considered less important.

In the area of farm mechanics the ability to work with the animal-drawn implements was considered more important than 'operating a tractor.'

Selection of farm animals and poultry was considered a valuable skill in animal sciences.

WYOMING

submitted by

Jack Ruch

COTTRELL, SAMUEL MADS. The Adequacy of the Pre-Service Education for Agricultural Mechanics in Vocational Mechanics. Thesis, M.S., 1968, University of Wyoming, Laramie, Wyoming.

Purpose. -- The purpose of this study was (1) to collect information from teachers of vocational agriculture in the eleven western states, and (2) to use this information to determine the effectiveness of the farm mechanics preparation in programs of teacher education.

Method. -- Five teachers of vocational agriculture from each of the eleven western states were asked to respond to five areas of preparation in farm mechanics teacher preparation. A review of literature was made to supplement the results obtained from the opinionnaire.

Findings. -- It was found that training immediately before World War II and recent preparation more nearly met the needs than that offered in the intervening time. While preparation basic skills appeared to be reasonably adequate, stress needed to be placed in the areas of farm power and machinery and building and convenience construction.